REMARKS

Claims 1-7, 9-14, and 16-26 were pending in this application when the present Office Action was mailed on May 21, 2008. In this response, no claims have been cancelled or added. Claims 1, 7, 14, and 21 have been amended. Accordingly, claims 1-7, 9-14, and 16-26 are pending.

In the Final Office Action mailed on May 21, 2008, the Examiner rejected claims 1-7, 9-14, and 16-26 under 35 U.S.C. § 103. For the reasons set forth in detail below, applicants submit that the present application, including each of pending claims, is in condition for allowance.

The undersigned attorney wishes to thank the Examiner for engaging in a telephone interview on August 7, 2008, during which the current rejection and the prior art were discussed. During the telephone interview, applicants proposed the above claim amendments to clarify the claimed features. The foregoing and following remarks summarize and expand upon the points discussed during the August 7 telephone interview and reflect the foregoing agreement. Accordingly, applicants respectfully request that this paper constitute applicant's interview summary. If the Examiner notices any deficiencies in this regard, he is encouraged to contact the undersigned attorney. For the reasons set forth in detail below, applicants submit that the present application, including each of pending claims, is in condition for allowance.

Overview

Current optical disk formats, including DVD, store data about the memory format of the disk in a separate signal called the wobble signal. See Hsiao, para. 0005. Because the wobble signal is recorded using phase modulation, disk drives must correct phase delay introduced when processing the wobble signal and the clock signal generated from the wobble signal. See Hsiao, para. 0006. Therefore, some of the pending claims are directed to, *inter alia*, a system for synchronizing a target clock

signal with the phase of an input wobble signal. Applicant's technology uses a phase frequency detector to detect when the input wobble signal precedes or lags the target clock signal. See Hsiao, para. 0030. The detector raises an UP signal if the input wobble signal precedes the target and a DOWN signal if the input wobble signal lags the target clock signal. See Hsiao, para. 0030. Applicant's technology also includes a counter that counts the number of cycles of a reference clock when each signal is raised and calculates a third value based on those counts. See Hsiao, para. 0031. The system then generates a running sum of the third values over a period of time. After the system has added a predetermined number of third values, the system generates a phase adjusting signal. See Hsiao, para. 0036-0037. If the sum is within a specified range, the phase adjusting signal is set to zero. See Hsiao, para. 0038. If the sum falls outside the specified range, the phase adjusting signal is set based on the sum. See Hsiao, para. 0033.

Rejection under 35 U.S.C. § 103

Claims 1, 4, 7, 11, 13-14, 18, 20-21, and 26 were rejected under 35 U.S.C. § 103 over U.S. Patent No. 6,754,147 to Hsu et al. ("Hsu") in view of U.S. Patent Application Pub. No. 2003/0081516 to Takumai et al ("Takumai") and U.S. Patent Application Pub. No. 2004/0057360 to Banno ("Banno"). The remaining claims were rejected under 35 U.S.C. §103 based on the above references in combination with additional art. For at least the reasons discussed below, applicants respectfully submit that the cited references fail to disclose all of the features of independent claim 1.

None of the cited references disclose "calculate[ing] the sum of a plurality of the third counting values" and setting the phase adjusting value "to zero if the sum is within a specified range, and . . . based on the sum is the sum is outside the specified range." Rather, Hsu discloses a different means of determining a value for adjusting the phase of the clock. In particular, the phase shift detection circuit 104 in Hsu uses a different means to detect phase difference. Hsu discloses that the circuit receives the wobble signal and a reference signal. See Hsu, Figure 6. The reference signal is generated so

that there are a specified number of cycles (e.g. 8) during a single cycle of the wobble signal. See Hsu, col. 7, lines 1-7. The phase detector determines the phase difference by detecting which cycle of the reference signal is currently being received when the phase detector detects a rising edge of the wobble signal. See Hsu, col. 7, lines 20-29. The circuit uses the determined cycle to determine the phase difference and generates a correcting signal based on that phase difference. See Hsu, col. 7, lines 36-42. Thus, Hsu fails to disclose calculating a sum and comparing that sum to a specified range, as is included in claim 1.

Takumai also fails to disclose this feature of claim 1. For example, the system in Takumai adjusts the clock phase any time a phase difference is detected by the counting circuit. See Takumai, para. 0075. Specifically, Takumai states that "the phase difference detection circuit generates phase difference information including a result . . . of the counting . . . and a kind of the phase difference." See Takumai, para. 0075. Thus, Takumai does not disclose comparing a calculated sum to a specified range in order to generate a phase-adjusting signal, as included in claim 1.

Banno also fails to disclose this feature. Banno discloses only that the system performs a masking process on counted values to generate control signals. See Banno, para. 0100. This masking process is used to select particular bits from the counted values. See Banno, para. 0100. However, Banno makes no mention of comparing a counted value to a specified range, as included in claim 1. Thus, none of the references teach or suggest "calculating a sum of counting values", much less setting the phase adjustment value to zero if the sum is within a specified range. Therefore, for at least this reason, the references fail to teach all of the features of claim 1, and the Section 103 rejection should be withdrawn.

For similar reasons, the references also fail to disclose providing the phase adjusting value "when the number of the plurality of the third counting values is greater than a predetermined number of cycles," as included in amended claim 1. Rather, the

systems disclosed in the references generate phase adjustment signals immediately after a phase difference is detected. For example, Hsu discloses only that the system generates a phase adjustment signal when a phase difference is detected. Nothing in Hsu teaches or suggests that the system generates a phase adjustment signal after a predetermined number of cycles. Similarly, Takumai discloses that the system generates a phase adjustment signal immediately after a phase difference is detected. See Takumai, para. 0075. Banno also fails to disclose at least this feature of amended claim 1. Thus, for this reason, as well, the references fail to disclose all of the features of amended claim 1 and the Section 103 rejection should be withdrawn.

For at least the reasons discussed above, Hsu, Takumai, and Banno fail to disclose or suggest the features of claim 1. Therefore, a *prima facie* case of obviousness under Section 103 has not been established with respect to claim 1 and, accordingly, the Section 103 rejection of this claim should be withdrawn.

Independent claims 7, 14, and 21 include features generally analogous to those discussed above with reference to claim 1, and dependent claims 1-6, 9-13, 16-20, and 22-26 depend from claim these independent claims. Accordingly, the Section 103 rejections of claims 2-7, 9-14, and 16-26 should be withdrawn for at least the foregoing reasons and for the additional features of these claims.

Conclusion

In view of the foregoing, the pending claims comply with the requirements of 35 U.S.C. § 112 and are patentable over the applied art. The applicants accordingly request reconsideration of the application and a mailing of a Notice of Allowance. If the Examiner has any questions or believes a telephone conference would expedite prosecution of this application, the Examiner is encouraged to contact Chun M. Ng at (206) 359-8000.

Respectfully submitted,
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